

REMARKS

Claims 3, 9, 10 & 15 have been amended. Claims 1-20 are currently pending in the present application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

CLAIM OBJECTIONS

Claims 3, 4, 15 & 16 are objected to on page 2 of the Action. Specifically, Claims 3, 4, 15 & 16 are objected to because parameters 'θ' and 'ρ' are not defined in the claims. In response, the claims 3 and 15 have been amended to define parameters 'θ' and 'ρ'. Support for the amendments may be found on page 10 and 11 of the specification. No new matter has been added. It is respectfully requested that the objections to the claims be withdrawn.

REJECTION OF CLAIMS 1, 5, 6, 8-13, 18 and 19 UNDER 35 U.S.C. 102

Claims 1, 5, 6, 8-13, 18 and 19 are rejected under 35 U.S.C. 102(e) for the reasons set forth on page 2-4 of the Action. Specifically, claims 1, 5, 6, 8-13, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kathman et al. (U.S. Pat. No. 6,496,621 B1), which is hereinafter referred to as the Kathman reference.

The rejections under 35 U.S.C. 102(e) are respectfully traversed, at least insofar as applied to the amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth herein below.

The Federal Circuit has ruled, "Under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. . . . In addition, the prior art reference must be enabling, thus placing the allegedly disclosed

matter in the possession of the public.” Akzo N.V. v. United States Int’l Trade Comm’n, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987).

Furthermore, the Federal Circuit has held, “Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

It is respectfully submitted that the Kathman reference fails to teach or suggest the transfer lens, optical module, and manufacturing method as claimed. Specifically, the Kathman reference fails to teach or suggest inter alia the following claim limitation:

“a first phase function having angular symmetry,” as claimed in claims 1, 9 and 19.

Regarding independent claims 1, 9 & 19, page 3 of the Action states that equation 2 teaches the “first phase function having angular symmetry,” as claimed. Specifically, col. 4, lines 59-60 and col. 5, lines 55 and 58 are cited for teaching the first phase function as claimed. The first phase function having angular symmetry is defined as a phase function, where the phase is dependent only on the polar angle coordinate of the aperture. For example, the specification states, “1) a first phase function where the phase is dependent only on the polar angle coordinate of the aperture (herein referred to as a first phase function having “angular symmetry”).” (Specification, page 8, lines 7-9).

In contrast, it appears that Equation 2 of Kathman is dependent on both x and y, which are coordinates in the plane. (see Kathman, col. 4, lines 40 to 47). Specifically, the arctan function, which is an inverse trigonometric function (i.e., an inverse Tangent function), is a function of both x and y. Accordingly, it is respectfully submitted that

equation 2, which depends on both x and y, does not fairly teach or suggest the first phase function having angular symmetry as claimed.

Furthermore, the Action states that col. 5, lines 55 and 58 of Kathman teach the “second phase function having radial symmetry and a cusp region, wherein the cusp region has a discontinuous slope therein,” as claimed.

The second phase function with radial symmetry is defined as a phase function where the phase is dependent only on the polar radial coordinate of the aperture. For example, the specification states, “a second phase function where the phase is dependent only on the polar radial coordinate of the aperture (herein referred to as a phase function having “radial symmetry”) and further having a cusp region.” (Specification, page 8, lines 9-11).

In contrast, it appears that Equation 3 of Kathman is dependent on both x and y, which are coordinates in the plane. (see Kathman, col. 4, lines 40 to 47). Accordingly, it is respectfully submitted that equation 3 (which is equation 2 plus a lens function) that depends on both x and y, does not fairly teach or suggest the second phase function having radial symmetry as claimed.

Accordingly, the Kathman reference fails to teach or suggest inter alia the following claim limitation:

“a second phase function having radial symmetry and a cusp region; wherein the cusp region has a discontinuous slope therein,” as claimed in claims 1 and 19.

Moreover, it is respectfully submitted that “the combination of a lens function having radially symmetric terms with a negative axicon function” is not the same and does not fairly teach a phase function having radial symmetry and a cusp region with a discontinuous slope therein as claimed.

The dependent claims incorporate all the limitations of the independent claim. In this regard, the dependent claims 5, 6, 8, 10-13, 18-20 also add additional limitations, thereby making the dependent claims a fortiori and independently patentable over the cited references.

For example, regarding claim 20, page 4 of the Action states that Kathman “disclosed adding a third phase function to the surface function” where the third phase function is a lens function (citing col. 4, line 50). Specifically, the first term in equation 3 is referenced for teaching the “adding a third phase function,” as claimed. However, it is respectfully submitted that phase function of Kathman, which as described previously is the arctan function, is very different from the first and second phase functions as claimed. Furthermore, even if the lens function of Kathman teaches the lens function as claimed in claim 20, which is not conceded, it is respectfully submitted that Kathman fails to teach or suggest

“the third phase function includes one of a lens phase function, an aberration control phase function, a prism phase function, and a grating phase function.”

For example, the Kathman reference does not teach or suggest that the third phase function can be an aberration control phase function, a prism phase function, and a grating phase function as claimed in claim 20.

In view of the foregoing, it is respectfully submitted that the Kathman reference fails to teach or suggest the optical navigation device as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. section 102(e) be withdrawn.

REJECTION OF CLAIMS 2-4 and 14-16 UNDER 35 U.S.C. 103

Claims 2-4 and 14-16 are rejected under 35 U.S.C. 103(a) for the reasons set on page 5 of the Action. Specifically, claims 2-4 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathman.

The rejections under 35 U.S.C. 103 are respectfully traversed, at least insofar as applied to the amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth hereinbelow.

Dependent claims 2-4 and 14-16 incorporate all the limitations of the independent claims 1 and 9. Furthermore, the dependent claims claims 2-4 and 14-16 also add additional limitations, thereby making the dependent claims a fortiori and independently patentable over the cited references.

It is respectfully submitted that Kathman, whether alone or in combination, fails to teach or suggest the invention as claimed. Specifically, it is respectfully submitted that Kathman reference, whether alone or in combination, fails to teach or suggest the following: “a first phase function having angular symmetry,” as claimed in claims 1, 9 and 19.

First, equation 2 of Kathman does not fairly teach or suggest the first phase function as claimed. Second, equation 3 of Kathman that includes a lens function does not fairly teach or suggest the first phase function as claimed. Third, the phrase, “lens 30 is preferably a diffractive surface that is a combination of a lens function having radially symmetric terms with a negative axicon function” fails to fairly teach the first phase function as claimed.

Moreover, it is respectfully submitted that a “lens function having radially symmetric terms with a negative axicon function” is very different from “first phase function having angular symmetry, and a second phase function having radial symmetry and a cusp region; wherein the cusp region has a discontinuous slope therein, as claimed.

Page 5 of the Action in paragraphs 3 and 4 asserts that “if not inherent, it would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to provide the radially symmetric function with a conical function so as to provide focusing power. Furthermore, the disclosed particular parameters, which describe the cone phase region, do not serve as a basis for patentability as they can be achieved by routine experimentation.” Applicant respectfully disagrees with this position.

First, there is no teaching or suggestion in the cited prior art (in Kathman, for example) of combining a first and second phase function as claimed. It is only with a strained interpretation that the teachings of the present invention are distilled from the Kathman reference. Second, there is no teaching in Kathman of the specific equations claimed in claims 3 and 15. Accordingly, it is respectfully submitted that one skilled in the art at the time the invention was made would not have been able to arrive at the invention as claimed, unless they had the teachings of the present invention.

The Federal Circuit has held, “It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that “[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” (quoting In re Fine, 837

F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)), In re Fritch, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992).

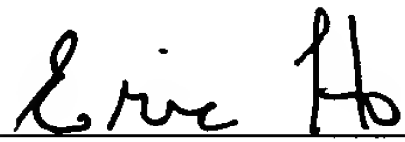
The Federal Circuit has also ruled, “The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself.” In re Oetiker, 977 F.2d 1443, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992)

It is respectfully submitted that the claimed invention has been improperly used as an instruction manual or “template” to piece together the teachings of the Kathman reference so that the claimed invention is rendered obvious. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. section 103(a) be withdrawn.

Conclusion

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

Respectfully submitted,



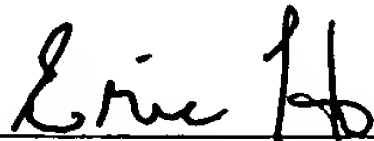
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on the date below.



Eric Ho (RN 39,711)

August 11, 2003
(Date)